## GRANULOMA OF THE LARYNX.\*

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The occurrence of granulation tissue in tuberculous and syphilitic lesions of the larynx is common, and even in these lesions it rarely attains any size, owing to the frequent association of ulceration, but a mass of granulation tissue in the larynx not associated with those infections is of sufficient rarity to warrant my reporting a case. The following cases are typical of the specific types:

H. Tilley reports a case of granuloma of the left vocal cord in a man aged 54, having a history of syphilis, which entirely disappeared under treatment directed to this disease. Jefferson Faulder reports an extensive granuloma in the inter-arytenoid space in a man aged 21, having an active tuberculous lesion in both apices. Harmon Smith reports a case in a woman aged 32, of a granuloma in the inter-arytenoid space, in which there was a positive Wassermann and the presence of tubercle bacilli in the sputum.

The only case that I have been able to find reported of the non-specific type is that of St. Clair Thomson, who reports a case in a man aged 40, of a pedunculated mobile tumor, adhered to the free edge of the right vocal cord just anteriorly to the processus vocalis. The pathological report was that the tumor consisted of fibrin and granulation tissue, covered by a squamous epithelium which showed no evidence of malignant change. The tumor was removed and no return noticed six months after operation. Thomson further comments on the fact that they are so rare that no mention is made of this type of tumor in his textbook.

My case, Mrs. C., aged 30, came to my clinic at the Graves dispensary of the University of California in January, 1917, with the following history: On April 21, 1916, she was shot in the neck with a 32-calibre pistol. The bullet entered on the left side just behind the sterno-mastoid, traveled forward to the larynx, penetrated the thyroid cartilage a little to the left of the center, just above the cords, was then deflected to the right, making its exit just in front of the sternomastoid. The wound of entrance healed rapidly; that of exit made a very slow recovery, taking about three months before it was entirely healed. There was a bloody discharge from the larynx dating from the time of accident. For about a month this was tinged with pus and then later it became mostly purulent with an occasional tinge of blood. This discharge continued until the last granuloma was removed. In August her voice became hoarse. In November she was only able to whisper and this has continued up to the present. In December she began to have difficulty in breathing, which increased up until the time she came under my care.

Examination: Both external wounds completely

healed; larynx, a mass, dark red and granular in appearance, fills the anterior two-thirds of the larynx. It moves up and down with respiratory movements, bleeds easily, and is apparently free on both sides and posteriorly, and attached anteriorly. The vocal cords could not be seen. The patient was sent to the hospital and prepared for operation at once. All efforts to explore the larynx by direct methods with local anesthesia were unavailing. Ether was then given, and as the anesthesia advanced, the respiration became so difficult, it was deemed wise to do a preliminary tracheotomy, which was immediately done, and no further trouble from the breathing was experienced. The patient was now suspended by the Killian apparatus. The mass was easily outlined and the observations made by indirect laryngoscopy confirmed. The large portion of the mass was removed with a snare and the balance by forceps. The origin of the mass was just left of the middle line and above the left cord, and from a depressed wound about one-fourth inch in diameter in which a probe entered to the depth of one-fourth inch. The left cord was found completely paralyzed. The tracheotomy tube was removed on the third dav. The pathological report was that, "the sections show the tissue to be made up chiefly of a loose connective tissue which is infiltrated with small round cells and red blood cells. The connective tissue cells seem to be quite young and have the appearance of cells in granulation tissue. The round cell infiltration is quite diffuse, there being no area in which collections of cells occur. The surface seems to be covered by a thin, poorly staining layer of epithelial cells. The picture is one of chronic inflammatory granulation tissue. There apparently is no evidence of malignancy.'

Two weeks following there was a new growth about the size of the original. All endeavors to reach this by local anesthesia were useless. Under ether the growth was removed by direct methods and suspension apparatus. Patient was discharged from the hospital and sent home three days later.

March 21, 1916, patient returned with a history of difficult breathing at night. There was a mass found about half filling the larynx which by careful maneuvering I was able to remove with the snare by indirect methods and cocaine anesthesia. April 3, 1916, found a new mass. This was removed with less difficulty than the last. June 12, 1916, returned with a new growth. Removed with little difficulty. June 29, 1916, returned with a new growth, which I was able to remove without the aid of any anesthesia. Between this date and March 21, 1917, seven growths of various sizes were removed without the aid of any anesthesia.

It is now over a year since the last one was removed. A careful examination shows a perfectly clear larynx. The left cord is still paralyzed.

## References.

Sir St. Clair Thomson.

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T. J. Faulder: Royal Soc. Med. Proc., v. 6, 1913; Laryn. sec., p. 108.

Harmon Smith: Laryngoscope, April, 1918.

<sup>\*</sup> Read before the Forty-seventh Annual Meeting of the Medical Society of the State of California, Del Monte, April, 1918.